

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Canceled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (canceled), (withdrawn), (new), (previously presented), or (not entered).

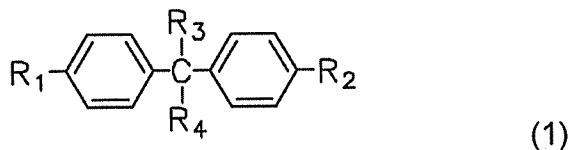
Please AMEND claims 1 and 2 and CANCEL claim 21 in accordance with the following:

1. (CURRENTLY AMENDED) A non-aqueous electrolyte of a lithium secondary battery, comprising:

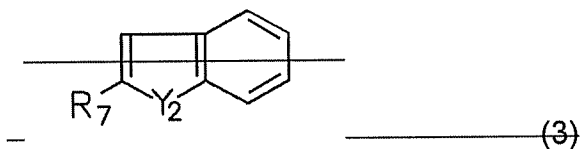
a lithium salt;

an organic solvent; and

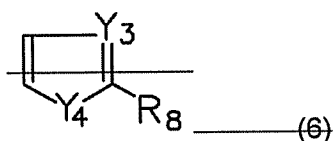
at least one additive compound substantially in an amount of 0.01 to 10 wt%, based on a total weight of electrolyte and selected from the group consisting of compounds represented by the following ~~formulas~~ formula (1), ~~(3)~~ and ~~(6)~~:



where R_1 and R_2 are independently selected from the group consisting of a hydroxy, a C_1 to C_6 alkoxy, a C_2 to C_6 alkenyl, a C_1 to C_6 alkoxy substituted with a halogen, and a C_2 to C_6 alkenyl substituted with a halogen; and R_3 and R_4 are independently selected from the group consisting of a C_1 to C_6 alkyl and a C_6 to C_{12} aryl;



where ~~Y_2 is selected from the group consisting of O, N, and S, and R_7 is selected from the group consisting of a C_4 to C_6 alkyl, a C_4 to C_6 alkoxy, a C_2 to C_6 alkenyl, and a C_6 to C_{12} aryl;~~
~~and~~



where ~~Y₃ is selected from the group consisting of N, O, and S, Y₄ is NR¹ (where R¹ is selected from the group consisting of hydrogen, a C₄ to C₆ alkyl, O, and NH), and R₈ is selected from the group consisting of hydrogen, a C₄ to C₆ alkyl, a C₄ to C₆ alkoxy, a C₂ to C₆ alkenyl, a C₆ to C₄₂ aryl, and an acetyl.~~

2. (CURRENTLY AMENDED) A non-aqueous electrolyte of a lithium secondary battery, comprising:

a lithium salt;

an organic solvent; and

at least one additive compound, wherein the additive compound is selected from the group consisting of bisphenol A, 1-(phenylsulfonyl) pyrrole, 2-butylbenzofuran, and 2-methylimidazole,

wherein the additive compound is used substantially in an amount of 0.01 to 10 wt%, based on a total weight of electrolyte.

3. (CANCELED)

4. (PREVIOUSLY PRESENTED) The non-aqueous electrolyte of a lithium secondary battery according to claim 1, wherein the additive compound is used substantially in an amount of 0.01 to 5 wt%, based on a total weight of electrolyte.

5. (ORIGINAL) The non-aqueous electrolyte of a lithium secondary battery according to claim 4, wherein the additive compound is used substantially in an amount of 0.01 to 1 wt%, based on a total weight of electrolyte.

6. (ORIGINAL) The non-aqueous electrolyte of a lithium secondary battery according to claim 5, wherein the additive compound is used substantially in an amount of 0.01 to 0.5 wt%, based on a total weight of electrolyte.

7. (ORIGINAL) The non-aqueous electrolyte of a lithium secondary battery

according to claim 1, wherein the additive compound forms a passivation layer on a surface of a positive electrode.

8. (ORIGINAL) The non-aqueous electrolyte of a lithium secondary battery according to claim 1, wherein the lithium salt is at least one selected from the group consisting of LiPF_6 , LiBF_4 , LiSbF_6 , LiAsF_6 , LiClO_4 , LiCF_3SO_3 , $\text{Li}(\text{CF}_3\text{SO}_2)_2\text{N}$, $\text{LiC}_4\text{F}_9\text{SO}_3$, LiSbF_6 , LiAlO_4 , LiAlCl_4 , $\text{LiN}(\text{C}_x\text{F}_{2x+1}\text{SO}_2)(\text{C}_y\text{F}_{2y+1}\text{SO}_2)$ (wherein x and y are natural numbers), LiCl , and LiI .

9. (ORIGINAL) The non-aqueous electrolyte of a lithium secondary battery according to claim 8, wherein the lithium salt is used substantially at a concentration in the range of 0.6 to 2.0 M.

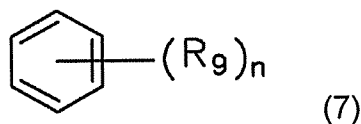
10. (PREVIOUSLY PRESENTED) The non-aqueous electrolyte of a lithium secondary battery according to claim 1, wherein the organic solvent is at least one non-aqueous organic solvent selected from the group consisting of a carbonate, an ester, an ether, and a ketone.

11. (ORIGINAL) The non-aqueous electrolyte of a lithium secondary battery according to claim 10, wherein the carbonate is selected from the group consisting of dimethyl carbonate (DMC), diethyl carbonate (DEC), dipropyl carbonate (DPC), methylpropyl carbonate (MPC), ethylpropyl carbonate (EPC), methylethyl carbonate (MEC), ethylene carbonate (EC), propylene carbonate (PC), and butylene carbonate (BC).

12. (ORIGINAL) The non-aqueous electrolyte of a lithium secondary battery according to claim 10, wherein the carbonate is a mixed solvent of a cyclic carbonate and a chain carbonate.

13. (WITHDRAWN) The non-aqueous electrolyte of a lithium secondary battery according to claim 1, wherein the organic solvent comprises a mixed solvent of a carbonate solvent and an aromatic hydrocarbon solvent.

14. (WITHDRAWN) The non-aqueous electrolyte of a lithium secondary battery according to claim 13, wherein the aromatic hydrocarbon solvent is a compound of Formula (7):



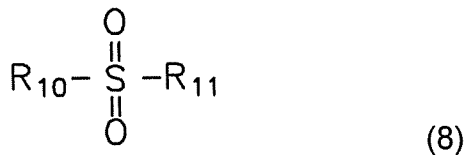
where R_9 is selected from a group consisting of a halogen, and a C_1 to C_{10} alkyl, and n is an integer of 1 to 6.

15. (WITHDRAWN) The non-aqueous electrolyte of a lithium secondary battery according to claim 13, wherein the aromatic hydrocarbon solvent is at least one selected from the group consisting of benzene, fluorobenzene, toluene, trifluorotoluene, xylene, and mixtures thereof.

16. (WITHDRAWN) The non-aqueous electrolyte of a lithium secondary battery according to claim 13, wherein the carbonate solvent and the aromatic hydrocarbon solvent are mixed in a volume ratio of 1:1 to 30:1.

17. (WITHDRAWN) The non-aqueous electrolyte of a lithium secondary battery according to claim 1, wherein the electrolyte further comprises an organic sulfone-based compound.

18. (WITHDRAWN) The non-aqueous electrolyte of a lithium secondary battery according to claim 17, wherein the organic sulfone-based compound is represented by the following formula (8):



where R_{10} and R_{11} are independently selected from the group consisting of a primary alkyl group, a secondary alkyl group, a tertiary alkyl group, an alkenyl group, a cycloalkyl group, an aryl group, or R_{10} and R_{11} are bound together to form a cyclic ring.

19. (WITHDRAWN) The non-aqueous electrolyte for a lithium secondary battery according to claim 18, wherein either of R_{10} or R_{11} is substantially vinyl.

20. (WITHDRAWN) The non-aqueous electrolyte for a lithium secondary battery according to claim 17, wherein the organic sulfone-based compound is used substantially in an amount of 0.01 to 5 wt% based on a total weight of electrolyte.

21 - 48. (CANCELED)